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PSYCHO-SOCIAL CORRELATES OF BLACK PRE-SCHOOL

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CHAPTER I

INTRODUCTION

Before formal education becomes a necessity, all children are involved in developmental processes. "Development can be defined as the emerging and expanding of capacities of the individual to provide progressively greater facility in functioning..." (1).

> This development is made possible by a dynamic relationship between the individual and his environment. This continuous interaction of child and environment provides for the many complicated changes which characterize development. Development is achieved through the process of growth (change in size), maturation (qualitative change not induced by learning) and learning (change through experience) (1).

Theoretically, development is frequently thought of "holistically". A holistic perspective of development is particularly appropriate in understanding the relationship between a child's capabilities and his performance and progress in school. Developmental theorists generally agree that physical, constitutional, cognitive, affective, familial, cultural, and environmental factors influence the development of all children and that developmental capabilities determine the child's progress in school (2, 3, 4, 5, and 6).

There are varying approaches to the study of development. These

have been categorized into two groups. One group is composed of the "stage theorists", namely, Freud, Erikson, Piaget, and their followers; the other is composed of the "social learning theorists", Watson, Skinner, and other American behaviorists. The former group is described as promoting "fairly fixed stages of development" while the latter "is concerned with experimentally altering the child's environment and noting resultant changes in his behavior" (7). Some theorists, however, prefer to combine the perspectives of both of these approaches in viewing development and consequently, the methodology used in studying child development ranges widely (4).

Constitutional Considerations

Today most scientists agree that arguments about nature verus nurture are passé (3).

> The dichotomy of environmental versus genetic traits is invalid; what we really want to know are the relative magnitudes of the genetic and environmental components in the variance observed in a given trait, a certain population, at a particular time (8).

Genetic influences are diverse in nature and they may be reflected through inherited body types, skin types, blood types, and so on, all of which may be influenced pathologically by heredity or environment (9). Inherited traits may, among other things, affect blood factors, learning, or behavior if a certain complex of bio-environmental conditions exists (3).

Of particular importance is the "relative magnitude" of environmental influences. Organic contributions and pathology represent highly important controls in human growth and development, but they will not be a major focus in this dissertation. The environmental focus can be

illustrated by noting that the learning potential of a child is directly related to both heredity and environment (10). If the environment is not facilitating, that is, if it does not provide the tools or experiences which promote or enhance learning potential, measured intelligence will be low. It should be recognized, however, that intelligence tests are not always accurate estimates of the actual learning capacity of a child (10). Further, the development of low income black children has been found to be inhibited prenatally and paranatally by deficiencies in maternal nutrition resulting, in some cases, in mental disorders (11, 12); however, a similar study found no such relationship (13).

The social order may prove detrimental to the child if at every corner he is reminded that he is second best because of skin color and circumstance. Inheritance, socially influenced, is usually of an indirect nature.

> ...heredity may influence behavior through the mechanism of social stereotypes. A wide variety of inherited physical characteristics have served as visible cues for identifying such stereotypes. These cues thus lead to behavioral restrictions or opportunities and - - at a more subtle level to social attitudes and expectancies. All of these influences eventually leave their mark upon his abilities and inabilities, his emotional reactions, goals, ambitions, and outlook on life (14).

The constant interaction between biological and environmental factors takes on significance when the individual is considered. The black child is often born into poverty - - a condition that can hamper learning (15), health (16), and well-being (17, 18).

The Black Child's Social Context

Poverty is self-perpetuating and environmental consequences (crowded living quarters, reduced access to education and recreation)

provide few of the basic requirements for the child's physical health or intellectual and social development. All individuals are in part a reflection of their past experiences. For the individual born and reared in poverty, it is probable that his offspring will duplicate the life style he was provided with during his formative years (19). The black child's alternatives to living are limited. The scarcity of social and educational opportunities may result in, a sense of helplessness, failure, insecurity, or the lack of goal directed behavior (20).

The lower socio-economic class can be divided into lower, middle, and upper subgroups (21). These divisions are useful in describing the margin of safety (i.e., the degree of security or insecurity) that each person has from financial collapse. Although the lowest sub-group suffers relatively the greatest economic hardships, all lower class persons' margin of safety from financial disaster is thin (22). Living under dire environmental conditions does not, however, result in the complete loss of aspirations for a better style of life. The lower class black family is not typically satisfied with poor housing or miserable living conditions (23). Material items are highly valued by both lower and middle classes. The desire for these items, unfortunately, may become more important than satisfying the needs of children (24). Aside from needs or wants, the reality of impending economic crisis is a continual threat for the lower class family. Attempting to maintain an equilibrium that will keep living conditions from growing worse is often more important than reaching out for something bigger and better (25).

The security and equilibrium of marriage differs between the lower and middle socio-economic classes. Divorce rates are higher for

the impoverished even though stable marriages are said to be highly valued by them (26). Reasons for marriage failure among the lower classes vary as with other classes; however, it is probable that external environmental forces including poor financial security, housing, recreational opportunities, and some sense of direction and purpose of life play an important role in their lack of marital success (26).

Several studies indicate that among the poor (white and non-white) there is a built-in psychological distance between husbands and wives which is spurred by feelings of hopelessness and despair among wives and hostile, impulsive attitudes among their husbands (27, 28). This situation has been shown to result in poor communication between husbands and wives among lower class whites (29) who tend to cling to extended familial relationships and prior friendships for emotional support to escape the frustrations of living in poverty (20). Data obtained by the Bureau of Social Research has shown that the poor receive more economic help from relatives than the non-poor (30).

Family structure may be described as patriarchal, matriarchal, or equalitarian. The structure of the black family has been viewed as matriarchal (31) possessing the following characteristics: the mother as the stable element, births out of wedlock, and the absence of the father from the home. This matriarchal label, traditionally has been accepted by social scientists; yet it has been argued that such a label may be erroneous.

> Perhaps the least of the problems associated with this matriarchal label is that it happens to be wrong. A matriarchal society would accept matriarchy as natural, inevitable and desirable. Moreover, it would include male roles that are accepted and respected. Yet the woman-headed central city Negro family is by no means regarded as an acceptable norm, either by the larger society or by the

> low-income Negro families themselves. On the contrary, the accepted ideal norm, in the ghetto as in Gold Coast, is a stable marriage in which the man is the chief breadwinner, and the so-called Negro matriarchs are the first to decry the perfidy of the male who does not fulfill this role (32).

The previously mentioned conditions that have given rise to a matriarchal structure require an interdisciplinary assessment of the complex psychological and societal interrelationships that have created these conditions.

The often made assumption that the black female is the dominant wage earner is inaccurate. Findings of the Bureau of Labor Statistics indicate that black women who work earn less than black men who work; however, the same can be said for whites. Unemployment is also higher for black women than for black men (33). Regardless of the reduced opportunity for decent wages, many black women are the principal breadwinners for their families. As in past generations, many black children are currently reared in single parent homes; however, mother-dominated, single parent homes are also common in lower class non-black families (34, 35).

The father's weak position is a common characteristic of the black family. He often exhibits aggressive and autocratic behavior, yet lacks any real sense of power as may be observed among middle and upper class males. Furthermore, links between unemployment, inadequate housing, emotional futility, and impulsivity have been found to exist among these fathers (2, 36, 37).

The father's passive role in the home may not be an acceptable norm (32) but it is a reality in many black families. Feelings of despair, lack of money, and welfare rules traditionally have been considered causal factors (34). Paternal passivity strengthens the child's reliance on the mother and lessens the possibility that the father will play a

viable role in the child rearing process (30).

The black male is frequently viewed as a failure by his wife, children, himself, and others in the community in which he lives. Poor job preparation, little contact with the power elite of the community, and little tangible evidence of success to his family reinforce his powerlessness (2). Resentment and hostility would appear to be a natural reaction to these numerous barriers to living.

The lack of a father's presence in the home has traditionally been viewed as creating masculine identity problems for sons (28, 38). From a different point of view, it seems logical to argue that the important relationship may not be between father and child but between mother and child and this latter relationship is affected by the quality of the mother's relationship with the father, or that a weak father may throw the whole family system into an uncertain balance. A recent report, however, concludes that no "firm" evidence supports the idea that the absence of the father is related to poor school adjustment among children (39, 40). Although no firm evidence may exist to support the position that a father's absence is significant, this viewpoint should not be cast aside because of the lack of definitive data.

The child rearing methods of the lower socio-economic class have been found to differ from those of the middle class. Lower class parents characteristically show cold, restrictive, authoritarian behavior (41, 42, 43, 44). Low income parents are more apt to use physical punishment and become highly emotional with their children while middle class parents use reasoning, praise, and threats of "withdrawal of love" as a means of control (44, 45). Love is not a central issue in the lower class black's

home because it is not withdrawn as a punishment. Riessman suggests that not threatening to withdraw love assures the child of his mother's continued feeling for him (31). It may be that the child is one of the few "things" the poor mother feels that she "has".

The lower class family is often viewed as more "traditional", expecting obedience and respect from children, while the middle class appears to be more concerned with the child's "inner development", self-motivation, and self-expression. Differences in child training have been accounted for by noting that the home setting of the lower class child is geared toward the physical factors of living due to economic deprivation (30).

Another characteristic of the black child's home environment is the involvement of many persons who participate in his daily care. It is common for older sisters, grandmothers, aunts, and neighbors to serve as mother substitutes because the mother is frequently absent making the living. Multiple mothering is not viewed as detrimental to the child, rather it is the lack of affection between the mother, or surrogate mother, and the child that is detrimental (46, 47).

In single parent homes children often view their mothers as peers due to the mother's lack of affectual ties with a husband. This creates problems when daughters are seen as rivals for the attentions of their mother's suitor (48) and when sons are made responsible for father roles (49). Family arguments are likely to erupt due to the stress of these conflicting roles. In addition, the possibility exists that both sons and daughters may feel pushed into early marriage because of role conflict within the home (34).

The child rearing methods, as well as the complexity of social relationships within the home, seemingly present the black child with numerous obstacles that thwart his possibilities for gaining social competence in conventional society.

Factors Associated with Learning

Low income black mothers have high aspirations regarding their children's success in school (50). These aspirations, unfortunately, often lack commitment or practical reinforcement. The lack of practical reinforcement may be the result of poor parental academic preparation, apathy, or environmental factors such as poor housing, nutrition, and the lack of medical care (50). In addition to these factors, the home environment is not always conducive to learning. On the one hand, some take the position that black children suffer from "stimulus deprivation" while others consider the homes of black children as being "bombarded" with stimuli. In the former position, it is thought that there is a lack of parent-child interaction in the home (e.g., question asking) which does little to encourage verbalization and organization of thoughts. Those who propose the latter viewpoint regard television, the constant noise, screaming and yelling among children, and the general disorganization of the household as so disruptive that the child is unable to settle down and respond to specific stimuli (15, 19). It seems likely that both points of view are appropriate at various times in any family situation; however, it is the constancy of the situation which is important. Irrespective of the nature of the stimulation problem at home, the black child is frequently unable to respond adequately to a variety of stimuli once entering school (15).

McClelland found a direct correlation between a mother's social class position and her son's achievement level. More lower class parents had low achieving sons than did middle class parents. In an experimental situation McClelland found that high academic standards set by parents were related to high achievement levels among boys. Supportive comments by parents were also more frequent among high achievers; however, black boys were not generally found to be high achievers. Black parents have frequently been found to press self-care demands on their children before promoting the need for achievement and this often resulted in low levels of demonstrated achievement by their children (51, 52).

Parent interest in achievement may be lowered because of environmental influences. Poor employment opportunities and disorganization within the home, such as those caused by overcrowded living conditions, may make learning and other "inner directed" qualities of primary importance to childhood development an issue of little consequence to their parents (53).

Class differences also exist in language styles (54). The lower class concentrates on short sentences which express few thoughts. This leads to confusion once the child enters school as he has not been prepared at home to comprehend what the teacher expects of him in school (55).

The unskilled and semiskilled occupations of lower class parents do little to promote abstract thought or the use of language skills as a greater emphasis is placed on the physical qualities of life. Davis points out that black parents generally provide poor learning models for their children as they have never learned to read well themselves, and their language is directed towards the concrete "public language style",

while middle class children are generally introduced to abstract thought and interpretation of words. Limited language ability among lower class children may result in poor preparation for academic success (56).

> The linguistic relationship between the lower-class mother and her child is such that little pressure is placed upon the child to verbalize in a way that signals and symbolizes his unique experience. The "I" of the mother, the way she organizes and qualifies her experience, will be transmitted to the child not through evoking speech which is specifically cut for this purpose. Spoken language is not perceived as a major vehicle for presenting to others the inner states of the speaker. What can be said is limited by the rigid possibilities for verbal organization. Such a system is a combination of non-verbal signals with a particular structure of verbal signals that originally elicits, and later reinforces a preference in the child for a special type of social relationship, which is limited in terms of verbal explicitness and relies heavily on a pattern of non-verbal signals. The "I" of the lower working class mother is not, relatively, a verbally differentiated "I" (57).

Lesser and his colleagues found that mental abilities were related to verbal ability, reasoning, numerical ability, and space. In all cases black children ranked last, except on reasoning, where they ranked third when compared with Chinese, Jews, and Puerto Ricans (58). Furthermore, Wittes states that the blacks' language pattern does not evoke complex logical thinking (59). This may be related to the strong emphasis on non-verbal means of communication which are reported to be prevalent among both black and white working-class mothers (60). Poor school achievement, a common characteristic among black children, is better understood when it is recognized that the lower class child has little home preparation in reading, vocabulary building, and general application of language development (60).

Learning involves the acquisition of perceptual skills (61). Perception is basic to learning, and like learning, perception is a process. Wohlwill reviewed one hundred sixty-nine references regarding

developmental studies of perception and concluded that perceptual skills (i.e., "size judgements") do not change significantly from kindergarten through college (62). Thus perceptual learning in early childhood establishes a baseline for later perceptual development. During these early childhood years "...middle class children are trained to respond to abstract, categorical and relational properties of objects, whereas lower class children are trained to respond more to concrete tangible, immediate, and particularized properties" (63). Mothers of black children are said to establish social and emotional distance between themselves and their children at a young age. As a result of this distance, perceptual development among lower class black children appears to be slower (63). The black child's home surroundings must be carefully considered in making school performance assessments; otherwise, faulty conclusions may be reached about his learning potential. The child's learning potential should not be confused with his learning style which is more concrete in nature (63). It is also apparent that perceptual skills have a neurological substrate. Pasamanick and his Baltimore group found deficits in this area related to prenatal care and birth trauma. Lower class nonwhite subjects in the study had more perceptual impairments than did whites (13).

In conjunction with perceptual skills there are both gross and fine motor skills -- those skills necessary for physical manipulation of the self and objects.

> Motor skills are complex and are involved in almost every aspect of the child's psychologic status, being ultimately related to perception and intelligence, to previous motivation, to emotional stability and to social relationships (64).

It is useful to examine some aspects of parental training in

order that the origins of "motoric expression" be understood. Early life motoric experiences include crawling and walking, both of which require supervision, if for no other reason than safety. Over time much "incidental learning" takes place between a mother and her child. By the standards the mother sets for her child's behavior, the child apparently learns what is expected of him and what motor qualities he can or should display or release (65). Mahler says:

> motor release is the most important and soundest device of the growing child to serve ego growth, obtain balance, and form an always available safety valve against anxiety (66).

Miller and Swanson found that lower class mothers favored corporal punishment and that their sons were more adept at physical or motoric activity than were the sons of white middle class mothers (65). The emphasis on the physical aspects of living by the poor are by now apparent. It is probably not realistic or necessarily desirable that gross changes be required of the lower class child to adapt the "abstract" model of the middle class because of the abrupt shift in learning style that would be essential; yet a classroom visit to most public schools reveals that a shift is required if the black child is to succeed. It is important that the child's learning potential be developed. Riessman has suggested that public schools give recognition to the concrete learning style common among black children by using teaching machines and encouraging teachers to use a games format in presenting materials so that the children's hidden intellectual resources can be tapped (31).

A third area influencing school progress relates to self-concept. Being both black and lower class frequently means attribution of the negatives associated with the lower class and constant reminders of

inferiority -- such as a (de facto) segregated school, dilapidated housing, and racial prejudice. The resulting impact of these and/or similar circumstances is a deflating experience that robs black families of their dignity and self-worth (67). Regarding home influences on self-concept, Hollingshead and Redlich found that the lower class child is less likely to receive affection in the home (68). Environmental pressures undoubtedly are related to this problem. Black parents, however, are more restrictive about what their children are allowed to do or say (69) and less aggression is tolerated by them than within the middle class family (70).

Miller found that "black children exhibit more negative self-evaluations than do white children" (71). This low self-perception appears to produce a "...negative effect on intellectual interests and ambitions and may thus help account for the long demonstrated correlation between socio-economic deprivation and school failure" (71).

Pre-School Programs for the Black Child

Pre-school experiences have not always been available to low income children primarily because these schools have been private and the cost considerable. The value of pre-school programs for disadvantaged children was recognized by the United States Congress in 1964 when they enacted legislation creating the Office of Economic Opportunity.

> Coming from homes with economic and social deprivation has been said to determine the great frequency of school failure among so-called culturally deprived children. The acceptance of this premise by Congress resulted in a vast expenditure of money for the institution of pre-school programs to make up for the "cultural lag" in these children (72).

In April, 1965, the Head Start Program was launched. At first Head Start projects were three months long and were held in the summer,

but gradually many have been extended to twelve months (73). Basic to all of these child development programs is a focus on the child and his family. In addition to the educational focus, this Community Action Program provides preventive medical and dental services on a regular basis for each child and when necessary social and psychological services are rendered.

Head Start provides low income mothers an opportunity for their children to receive a pre-school experience at no personal expense. In addition to freeing the mother from child care expenses, new jobs or job training can be attained thus enabling the mother to raise the family's standard of living (74).

Parent involvement is a key aspect of Head Start programs. The Head Start Parent Involvement Manual states that the program is designed to promote the growth and development of parents and their children (74). The mother of a child is his earliest teacher (75); therefore, it seems necessary that parent involvement be made a viable part of the educational process of the pre-school child if the poverty cycle is to be broken. Recent reports indicate that a nursery school experience alone is not sufficient to insure adequate academic performance at the elementary school level for the economically disadvantaged child. This is primarily because what is emphasized at school is not reinforced in the home (76). By involving mothers in the pre-school program, there is a greater likelihood that some reinforcement will occur in the home.

In 1968, Gray and Klaus completed a five year training project designed to improve the personal adjustment and intellectual functioning of culturally deprived children (77). Although this project focused

primarily on a limited ten weeks summer program, a home visitor was assigned to the experimental group and made weekly visits throughout the year. The home visitor acted as a liaison between the home and the school (19). They found significant improvement after the experimental children had been in public school two years. Although the specific impact of the home intervention program was not determined, it was viewed as an important aspect of the training project.

> It is folly not to realize that if no massive changes are made in the home, the conditions of a child, the situation which created the original deficit will continue to take its toll (78).

A comprehensive study of Head Start was undertaken by Westinghouse Corporation and Ohio University in 1968. This study of Head Start's summer and year round programs focused on the intellectual and psychological development of poor children who were Head Start enrollees, and the final report emphasized that parent involvement was a necessary aspect of these programs if they were to succeed. The study urged Head Start teachers to work more closely with parents by helping parents teach children (79).

Related research has also emphasized the importance of mothers' involvement in order that low income children have a better opportunity at school success. Levenstein has been concerned with the interaction between mother and child. Her study was homebound and focused primarily on pre-school black children twenty to forty-three months old and their mothers. The experimental group mothers and their children were visited weekly for an average of 32.4 sessions. She found dramatic cognitive gain associated with the experimental intervention (80).

Scheinfeld and his colleagues conducted a one year study on

black nursery school children who had shown signs of "developmental lag". They studied children's competence to perform adequately in the pre-school setting and mother's competence in child rearing methods. Home intervention by social workers and psychiatrists focused on developing a family environment in which the children's development of competence became a part of everyday life and valued as an end in itself (76). Significant changes were found in some of the families' social development and in the children's nursery school competence (76).

Pre-school intervention programs have produced significant gains in intelligence, language, and motor skills among lower income children.

Intellectual Gains

Spicker and his colleagues studied the intellectual progress of disadvantaged five year old children who were enrolled in a pre-school program for one year compared to a group of children who were not in a pre-school program. Children with gross organic, sensory, and emotional impairment were not included in the study. Both groups showed some gain after one year, but children with kindergarten exposure showed greater increases in intellectual performance on the Stanford-Binet L-M Intelligence Scale than did the children reared at home (81). The early training project by Gray and Klaus also showed improvement in intellectual and social functioning of the black children over a three month period, but follow-up programs added to each child's effectiveness (77).

Different findings were noted by the Westinghouse Corporation-Ohio University Study Group. The psychological findings of this study, which involved children from Head Start centers across the United States, indicated only limited improvement as the result of Head Start (79).

Although there are methodological differences in this study and that of Spicker, et al. (81), for the most part some degree of improvement has been found in intellectual functioning as a result of a pre-school experience.

In any school situation teacher-pupil relationships represent pleasurable experiences as well as obstacles to be tolerated. Teacher expectations have been demonstrated to directly influence intellectual gains. Teachers have been found to have low expectations of disadvantaged children. One experiment indicated that low expectations were met with low intellectual gains while high expectations were met with high gains. This finding indicates the importance of the teacher in the educational process. Although home and environmental influences are well known, teachers must not accept substandard work as satisfactory if they want to help develop the potentialities of the disadvantaged (82).

Language Gains

Language development is a major goal in Head Start programs. Improvement in language skills among disadvantaged children has been found by Keislar and Stern (83), Stearns (84), Weikart (85), and Bereiter and Engelmann (86) as a result of direct work in the classroom.

Stearns found substantial language gains among disadvantaged children following their participation in a series of sixty-seven language lessons over six months (87). In the Gray and Klaus study of lower class black children, increases in verbal abilities were also noted over a period of five years, but getting the child to use spoken language to obtain goals was difficult. This was attributed to the lack of "language interaction in the home" (19).

In the Westinghouse Corporation-Ohio University Study, language development was not shown to be significantly higher for the Head Start children than for home-reared children (79). This study seems to have found less favorable results for Head Start activities. Further evaluation of Head Start Centers is needed to clarify these conflicting findings.

Motor Skills

Pre-school intervention programs have also had a significantly positive effect on fine motor skills. Motor skills and manipulating skills are a regular part of nursery school curriculum. Lillie studied both gross and fine motor development among pre-school disadvantaged children. He found that gross motor skills were not significantly improved as a result of a year long educational program. "It appears that the running, jumping, balancing, and climbing opportunities available in the home and neighborhood are sufficient for developing gross motor skills" (87). Regarding fine motor control, Lillie concluded, "...that a traditional pre-school program is effective in improving the fine motor proficiency of disadvantaged children" (87). Support for Lillie's finding was demonstrated by Kunz and Moyer who studied motor development among disadvantaged children enrolled in a pre-school program (88).

Although child development programs have been shown to produce improvement in cognitive abilities (19) and in fine motor development (88), it seems likely that without home intervention the total resources of each child may not be developed. Parents play an important role in encouraging a child to verbally interact, and use fine motor skills thus increasing his intellectual capabilities (80, 88).

The importance of linking the home with the school seems to be an imperative if the bonds of poverty are to be broken. Slaughter expresses this idea as follows:

> It is time we realize that to educate the child, we must consult the family, for in the early years they (child and family) are often one and the same...(75).

The educational progress of the black child is dependent upon the characteristics and opportunities provided by his family and his environment. Pre-school programs such as Head Start appear to represent a sound investment in developing the potentialities of the black child and his family. Such programs, however, must be continually evaluated so that the maximum gain can be achieved for all participants.

Purpose and Contribution of Present Study

The impetus for this study came after a class presentation during the spring of 1970. This presentation was focused on the pre-school black child and the speaker was the Educational Directress of Children's House. She reported the results of a study in which she found that black children did not generally demonstrate an equal rate of school success after the first grade in public school compared to white middle class children. The lack of school preparation in the home was cited as a reason for the black child's frequent failure. No formal study had been conducted at Children's House to determine the role of the home in school progress. In a subsequent visit to Children's House, the importance of the home in effectuating educational progress was queried with the staff. They suggested that low levels of education, social and familial disorganization, and economic factors were important home influences. The author, therefore, decided to conduct a study focusing on the influence of the mother

(i.e., maternal involvement) on the child's educational progress.

Since the mother or mother substitute has a close relationship with her child during his early years, it was thought that her influence on his activities (what she allowed him to do) would affect his pre-school adjustment.

The specific purpose of this study was to investigate the relationships between black mothers' involvement with their children and the influence of maternal involvement on their children's educational performance and progress in a pre-school program. The independent variable was educational progress, the dependent variable was maternal involvement, and the intervening variable was the time the child spent in the pre-school program. In addition, it was also felt to be important to obtain teacher's assessment of the adjustment children made in the classroom to provide further insight into the relationship between educational progress and maternal involvement.

Contributions of Present Study

It is hoped that the techniques used in this study will serve as a screening device for selection of appropriate learning environments in a pre-school program. Should this information be obtained at the onset of nursery school, it could also be used to assess changes in maternal-child relationships and their impact on the child's later educational performance. Finally, the instruments might be used for predicting educational performance in grade school, thus allowing pre-school educators an opportunity to intervene at an early stage in providing services for those children who are deficient in those areas important to educational progress.

Hypotheses

I. There is a significant positive relationship between the educational performance of black pre-school children and maternal involvement.

Sub-hypothesis - High total percentile scores on the Vane Kindergarten Test will be significantly related to a high degree of maternal involvement. Low total percentile scores on the Vane Kindergarten Test will be significantly related to a low degree of maternal involvement.

II. There is a significant positive relationship between the educational progress of black pre-school children and maternal involvement, with respect to the time spent in pre-school.

Proposition 1 - Children with high maternal involvement will show significantly greater educational progress over a period of four months than children with low maternal involvement.

Proposition 2 - High maternal involvement is significantly related to high perceptual motor and vocabulary skills.

Operational Definitions

Educational Performance is defined and assessed by the Vane Kindergarten Test. The Vane Kindergarten Test was developed to evaluate the intellectual and academic potential and behavior adjustment of young children. In addition to a total performance score, the Perceptual-Motor, Vocabulary, and Draw-A-Man subtest scores provide a further differentiation of performance.

Educational Progress is defined as an increase in the total score (i.e., intellectual and academic potential) on the Vane Kindergarten Test (89) over four months. The lack of educational progress is defined as a decrease in the total score (i.e., intellectual and academic potential) on the Vane Kindergarten Test over four months. Subjects who show neither a decrease nor increase in the total score on the Vane Kindergarten Test will be categorized as stable.

Maternal Involvement is measured by an eighty item questionnaire adapted from Newson and Newson's study and the Parent Attitude Research Instrument. This scale is comprised of the following ten subscales: Independence from Mother (8 items), Independence in Play (5 items), Aggression in Play (4 items), Autonomy in Play (8 items), Mealtime Activities (9 items), Personal Habits (8 items), Bedtime Activities (8 items), Toilet Training (8 items), General Discipline (8 items), and Parent-child Relationships (14 items).

Research Setting

Children's House, a pre-school program for black children, was originally funded in 1965 through the Office of Economic Opportunity. Since its inception the Oklahoma Catholic Diocese has played a supportive role by providing the facilities and related services. The original Office of Economic Opportunity funding was made possible by a direct grant obtained by Father Edward Kelly. This was the first Head Start project funded in the Oklahoma City area. With the reorganization of Head Start programs, the Community Action Program now acts as the coordinating agency for Children's House and fourteen other child development centers in the Oklahoma City area.

Children's House is located in the northeast predominantly low income black sector of Oklahoma City. The program is funded to provide services for one hundred and twenty children ranging in age from three to six years of age. All but six of the one hundred and twenty children were black. As of March 15, 1971, there were thirty-one three to four year old children, forty-five four to five year old children, and forty-four five to six year old children in the program.

The administrative organizational relationship between the Oklahoma City Community Action Program, Children's House and its internal organization is shown in Figure 1. The staff at Children's House is composed of eleven teachers, one educational directress, the administrator, a family counselor, two cooks, and the maintenance man. The teachers are primarily indigenous to the black community except for the two whites who do not live within this sector. They, like the white educational directress, live in the predominantly middle class west section of the

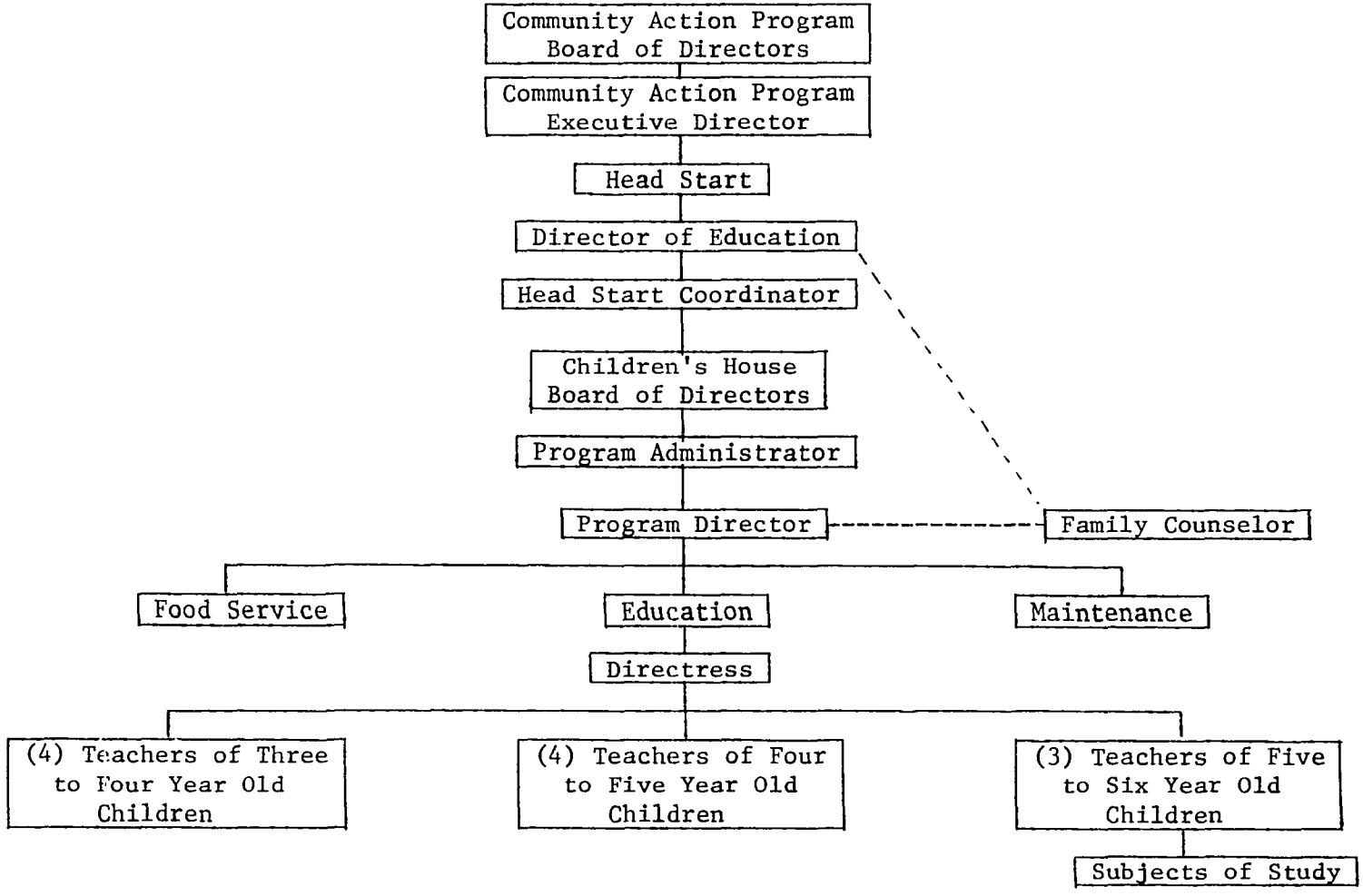

Figure 1--Administrative organization of Children's House and its relationship to the Oklahoma City Community Action Program.

city. The black female administrator lives in the northeast sector, but in an improved area. All other staff live in the impoverished sector.

Teacher educational achievements range from high school to college graduates. Eight members of the teaching staff have some college preparation as does the program administrator; however, the educational directress has a Master's Degree in Early Childhood Development. Of the three black teachers involved with the subjects for this study, one is a college graduate and two have some college preparation. A series of workshops, seminars, and college credit courses are made available to them each year. All teachers participate regularly in seminars held for the child development centers by the Community Action Program.

All of the classroom teachers make salaries which exceed the poverty guidelines (89). It should also be noted that staff integration is viewed as desirable and a more equitable distribution among the races is preferred.

The children are divided for instructional purposes into three age groups, three to four, four to five, and five to six. Educational activities occur during the morning, usually commencing at 9:00 a.m. and ending at 12:00 noon. After each teacher takes roll, a regular program of instruction is pursued. Activities vary daily from one age group to another depending on the educational objectives which are sought and the nature of the lesson plan. The educational approach utilized at Children's House follows the Montessori method; yet other kindergarten methods and materials are used as deemed appropriate.

The Montessori method was developed by the physician Maria Montessori in Italy during the late 1800's (90). Its primary focus then

as now is the individual child. Some important aspects of this educational process are pointed out in the following excerpt.

> The most important outcome of the Montessori auto-educative process for the child is his development of self-mastery. A child allowed to concentrate his attention upon interesting self-chosen tasks achieves self-confidence and positive self-valuation.
>
> As the child learns self-control, he is concurrently acquiring competence in dealing with his surroundings through sensory, motor, intellectual, and social skills. "What he wants to do", says Montessori, "is to master his environment, finding therein the means for his development". The teacher, the adult, must not interfere with the child's drive for self-development. The Montessori directress prepares the environment and insures the functioning of its auto-creative features, but it is the child who must actively engage the environment and master its challenges (91).

The Montessori method has been used worldwide to introduce preschool children to the fundamental skills of reading, writing, and arithmetic. "Children from all levels of social and economic backgrounds are found to benefit from the Montessori approach" (92). The current educational directress at Children's House suggests this approach is particularly applicable for the impoverished black child because of the organization it imposes on the child to get things done and its focus on conceptual thinking.

The five to six year old children at Children's House have a program focused on basic mathematics, language (i.e., speaking, reading, and writing), and science utilizing the Montessori techniques of instruction. When the children and teachers were observed, both demonstrated a real sense of interest and enthusiasm. Having adequate equipment and materials undoubtedly is related to the high morale observed in the classroom.

The central focus of the child development center is the whole

child. Besides the primary function of pre-school academic preparation, this program includes coordinative services. A Community Action Program representative arranges for these activities at Children's House. Preventive medical and dental services (i.e., immunizations, and examinations) are handled on a routine basis for all of the children whereas psychological problems requiring referral are handled on an as-needed basis. An auxillary speech development program is conducted by a qualified speech therapist on a weekly basis for all of the children. Small groups are used to emphasize speech and language development. Additional supportive services are provided by Junior League volunteers who take the five to six year old children sight-seeing and engage in related activities on a bi-monthly basis.

A family counselor is located in the center. She is organizationally tied to the central office; yet maintains a close working relationship with the Children's House staff. She acts as the liaison between the school and the home. Her primary activities include determining when and why children sustain long periods of absence from school and relating medical and dental care needs to parents when follow-up is required. Since most of the mothers of the children work, home contacts are difficult often requiring the counselor to make after hour and weekend contacts.

Other measures are taken to relate to parents and these include bi-annual parent teacher meetings and sewing classes for mothers who wish to participate. Efforts to involve parents have not been particularly successful in this center. This could be related to a variety of causal factors including indifference, heavy work demands, or illness on the part

of parents; yet the most plausible explanation seems to be that inadequate staffing is provided for the development of any type of meaningful program. One family counselor cannot adequately serve the needs of 120 families. It is, therefore, understandable why the counselor's present activities are limited to clerical functions. A graduate social work student has recently made an effort to develop a group counseling program for the parents at Children's House. Such efforts may open the doors at Children's House for a stronger bond between the center and the home.

The physical plant at Children's House is made up of two buildings and a common playground. At the east end of the property is an old two story wooden structure, called the "white house". All of the three to four year old children are housed there. West of the "white house" is the main building which is occupied by the four to six year olds. The main building is a two story brick structure that once served as a parochial day school. Behind the buildings, running the length of the property, is the playground, which is in fair condition, but is in need of improvement. Since both structures are old, there are always repairs to be made which proves taxing to the maintenance man.

Definite structural limitations exist in the flexibility available to teachers in improvising activities. Since these buildings were originally intended for another purpose, the location of their walls, bathrooms, etc. does not follow part of the scheme teachers would like to develop in their classrooms. Going to the bathroom in both houses causes disruption of more than one class due to the location of the toilets. It should also be noted that the toilet facilities are inadequate. On extremely cold days, children in the brick building must be taken from their

classrooms and collected upstairs in cramped quarters because of inadequate heating. Lunches for all children four through six must be served in the classroom area of the four-five year old children due to the location of the kitchen. In the classrooms, cots must be brought out daily for napping after lunch which is inconvenient to both teachers and students as the cots take up much needed classroom space when they are not being used.

It is obvious that the buildings are the weakest link in the otherwise strong chain of activities and events at Children's House. Having good staff and materials offsets the deficit of the structure, but improved facilities would strengthen the overall program.

CHAPTER II

METHOD

Sample

All five to six year old children at Children's House were initially considered for inclusion in this study because the educational instruction in their classrooms appeared to be more uniform than was the case with the younger children. It also seemed that the likelihood of unknown school influences were less for the five to six year old age group. The total possible sample was forty-four. Two white children were excluded because they could not constitute an adequate comparison group and two black children were excluded due to the uncooperativeness of their mothers. The final study sample, therefore, was composed of forty black children (18 girls and 22 boys) and their mothers.

Participant Observation

Prior to formal data collection, the author spent four months as a participant observer at Children's House getting to know staff and volunteering to assist in making physical improvements to the facility. These efforts were made to increase the probability of teacher cooperation as well as to satisfy a personal interest in the welfare of the children. Since the majority of the teaching staff was black, it was necessary to ensure that racial barriers did not inhibit data collection.

Complete teacher cooperation was attained and no racial problems of significance emerged.

Contact with Mothers

Formal research efforts were begun in January, 1971. The center director and the educational directress indicated that sending a letter home with each child would be the best mechanism for contacting the mothers to determine if they would participate in the study. This is the usual procedure used at Children's House to notify parents of a meeting or of bringing the children's medical or dental needs to the attention of their parents. The author was informed by the director that established communication lines within the black community should be followed to enhance cooperation.

Letters were sent home with each child requesting that each mother come to Children's House the following week at a convenient time for an interview. A form for replying was attached so that mothers could designate the hour and the day they wished to come (Appendix A). All but seven of the forty mothers replied. Personal contact was made with these seven mothers and they all agreed to cooperate and were subsequently interviewed.

Interview Schedule

An eighty item questionnaire was developed to measure maternal involvement (Appendix B). Items were adapted from Newson and Newson's study (93) and the Parent Attitude Research Instrument (94). Although the Newsons' research instrument was basically open-ended in design, its primary emphasis was on assessing maternal involvement. Areas used by

the Newsons' in assessing maternal involvement were: Independence from Mother, Independence in Play, Aggression in Play, Autonomy in Play, Mealtime Activities, Personal Habits, Bedtime Activities, Toilet Training, and General Discipline. In addition, fourteen questions were selected from the Parent Attitude Research Instrument (94) to enhance the above areas. The first sixty-six items of the final questionnaire focused on the behavior of the child or mother in various situations, while the last fourteen questions focused on what the mother thought or might do under various circumstances. In order to eliminate the author's bias in determining the weighting of the eighty items and to incorporate both ethnic and maternal values in the weighting of the items, seven black mothers were used as judges. The judges were instructed to select, what they considered the "best", or ideal response from five possible choices (never, rarely, sometimes, most times, and always) for each of the eighty items. The judges were told to give their "best" choice a weight of five, the next "best" a weight of four, third "best" a weight of three, fourth "best" a weight of two and fifth "best" a weight of one.

Subjects (mothers) scores were first obtained for each of the items in the ten sections and these scores in turn were added to obtain a total score for maternal involvement. The possible scores for each of the ten sections were as follows: Independence from Mother (40 points), Independence in Play (25 points), Aggression in Play (20 points), Autonomy in Play (40 points), Mealtime Activities (45 points) Personal Habits (40 points), Bedtime Activities (40 points), Toilet Training (40 points), General Discipline (40 points), and Parent-child Relationships (70 points), resulting in a total possible score of four hundred. The higher the total

score, the higher the degree of maternal involvement.

Part B of Schedule

The interview (Part B) elicited family background factors from the mothers. Questions sought data regarding marital status, occupation, employment status, education, time spent with the child, the number, and ages of the children in the family, and data about the head of the household.

Pretest

The questionnaire was pretested twice. It was first administered to five black female employees at the University of Oklahoma, School of Health whose income and educational levels were comparable to the mothers in this study; all were mothers. After revisions were made, a second pretest was conducted with five black mothers at Children's House who were not included in the present study. Minor revisions were made before the final questionnaire was administered.

Interview

A retired black nurse who is well-known and apparently liked by the mothers conducted the interviews. All interviews were conducted in a private room. The interviewer read the statement of purpose regarding the project and then explained how the interview would be conducted. Each question was read aloud and the mother either selected or gave a response (Appendix C). All responses were later checked by the author for completeness.

The author monitored the consistency in instructions and the interview technique from an adjoining room. The average interviewing

time was fifteen minutes with a range from ten minutes to twenty minutes. All interviews were conducted with the natural mothers except in one case where the child was in the custody of the grandmother.

Assessment of Educational Performance

The Vane Kindergarten Test (VKT) (95) was selected to measure educational performance because of its reliability and simplicity in administration. This test is composed of three subtests, (i.e., Perceptual-Motor, Draw-A-Man, and Vocabulary) (Appendix D). By design the Vane Kindergarten Test provides a somewhat global assessment of performance. This test was administered in January, 1971, to determine the children's performance levels and re-administered in May, 1971, to determine if a significant change in intellectual and academic performance had taken place over a period of four months.

Before the actual testing took place, the author visited the classrooms for at least one hour daily for one week so that the children would not view the author as a stranger. The author was well received by the children during each visit.

Prior to administering this test, eight four year old black preschool children were tested to gain familiarity with the test. All of the children appeared relaxed and comfortable in the test situation.

Testing Conditions

The teachers were cooperative in providing a favorable environment for testing. All of the children were rotated daily from one classroom to another so that the three basic subjects, language, math, and science could be taught; therefore, each child was familiar with each

teacher. The science teacher volunteered to help in the test situation and the other two teachers conducted class while the testing was carried out.

As recommended in the Vane Test Manual (95), the following general conditions were adhered to in the test situation: 1) There should be no more than ten to twelve children at one sitting; 2) The children not being tested should be taken to another room for activities until time for testing; 3) No more than four children should be seated at a standard kindergarten table at one time; 4) Spaced seating should be provided so that children showing each other their papers is kept to a minimum; 5) Test papers should have the name of the child and his birthdate written in by the examiner before the test begins; 6) Having the teacher hand out the test is best because some children do not respond when their names are called; 7) Once the children have their papers, small pencils with erasers should be supplied; 8) The Perceptual-Motor and Draw-A-Man tests should be given first in a group situation while the Vocabulary test should be administered individually; 9) On the Draw-A-Man test, children should be allowed adequate time to complete their drawings; 10) If some children finish their drawings before others, they should be given an activity so as not to disturb those children still working.

Perceptual-Motor Subtest

On the paper provided, each child should make in the appropriate places three boxes, three crosses, and three hexagons upon examiner request. Praise and encouragement are to be given to the children during the test. Extra paper is to be provided for those children who draw large (95).

Draw-A-Man Subtest

Instructions are to be given by the examiner to "Draw a picture of a man and put in all of the parts." Once again praise and encouragement are to be given (96).

Vocabulary Subtest

In an individual test situation both the child and the examiner are to be seated in standard kindergarten chairs. The child is to be told by the examiner that he is "...going to say some words and I want you to tell me what they mean" (96). Responses are to be encouraged by asking the child to "tell me more"; yet leading questions are not allowed (95).

Test Administration

In the test situation for the Perceptual-Motor and Draw-A-Man subtests, no more than four children were in the room at any given time. The children were spaced one to a side at a standard kindergarten table and none of the children showed their papers to each other. Each child's name and birthdate were recorded prior to the test. The science teacher distributed the tests, small pencils, and erasers. Each child was allowed as much time as needed to take the tests. Testing time ranged from a minimum of ten minutes to a maximum of fifteen minutes. The teacher asked those children who completed their tests early to return to their respective classrooms. All of the children were cooperative during the test situation.

Following the requirements for the administration of the Vocabulary subtest, each child was tested individually in a private room. All

children cooperated. The minimum time required to complete the Vocabulary subtest was approximately five minutes and the maximum completion time was approximately ten minutes. The same procedure was followed for both the January and May testing periods. The tests were scored according to the procedure outlined in the Vane Kindergarten Test Manual (95). Raw scores were converted to standardized intelligent quotions. The mean of the three subtest scores provided the full scale test score.

Teacher Assessment of Children's Classroom Adjustment

It was also of importance to gain some perspective of the children's adjustment in the classroom to supplement the data obtained by testing. The three kindergarten teachers involved in this study were asked to assess the classroom adjustment of each of their students. Each teacher serves as a homeroom teacher in addition to her other duties and therefore has a good knowledge of each child. Each teacher was asked to rate the adjustment of each of the children in her homeroom as above average, average, or below average when judged against his peers. Classroom adjustment was broadly defined to include social, emotional, and intellectual qualities.

Social Characteristics of Total Sample

Table 1 shows the social characteristics of the total sample of mothers.

Mother's Age

Natural mothers' ages ranged from twenty-one to forty-four years with a mean age of twenty-nine years. Seventy-four percent, 28, of the mothers were between twenty-one and thirty-one years of age. One

TABLE 1

SOCIAL CHARACTERISTICS OF TOTAL SAMPLE (N = 40)

Characteristics		Characteristics				
Mothers Ages		Family Poverty Status	N=	Percent	N=	Percent
$\bar{x}$	28.8 years	Above poverty level	5	(12.5)		
Range	21-44 years	At poverty level	3	(7.5)		
		Below poverty level	32	(80.0)		
Family Annual Gross Incomes		Parent's Educational Level	Mother		Father	
$\bar{x}$	$3,077	0-6	2	(5.0)	-	-
Range	$1,200-5,560	7-9	1	(2.5)	3	(23.0)
		10-11	13	(32.5)	2	(15.5)
		H.S.G.	21	(52.5)	7	(53.8)
		College (1-3 yrs.)	3	(7.5)	1	(7.7)
Children in Home		Marital Status				
$\bar{x}$	3.6	Married	13	(32.5)		
Range	8 months-19 yrs.	Separated	6	(15.0)		
		Divorced	20	(50.0)		
		Widowed	1	(2.5)		
Family Size		Parent's Present Occupation	Mother		Father	
$\bar{x}$	4.8	Unskilled	16	(40.0)	4	(31.0)
Range	2-9 (members per family)	Semiskilled	17	(42.5)	5	(38.4)
		Skilled	2	(5.0)	3	(23.0)
		Trainee	5	(12.5)	1	(7.6)

grandmother, fifty-eight years old had custody of two children ages one and five.

Family Poverty Status

Since all of the respondents lived in poverty areas, Hollingshead's Two Factor Index of Social Position (97) did not provide meaningful comparisons; therefore, the 1970 Office of Economic Opportunity revised guidelines were used to determine poverty status (Appendix E).

Poverty status was determined by using a sliding scale in which possible incomes were related to family size once residency was established. All forty families had a non-farm status.

A striking feature was that 80 percent, 32, of the families were below the poverty level, 7.5 percent, 3, were at the poverty level, and 12.5 percent, 5, were above the poverty level. Of the thirty-two families below the poverty level, seventy-two percent, 23, contained five or less family members while 28 percent, 9, had six or more members.

Education

Fifty-two percent, 21, of the mothers had completed high school and only 7.5 percent, 3, had attained one to three years of college. There were no college graduates. About half of the thirteen fathers were high school graduates. Considering the fact that 80 percent, 32, of the families had a poverty status, the education attained by the parents was surprisingly high.

Marital Status

There were 32.5 percent, 13, married mothers in the sample; 15 percent, 6, were separated; 50 percent, 20, were divorced; and 2.5 percent,

1, was a widow.

Income

While income data is often unreliable, these data were obtained by a black female administrator at Children's House. The average income for all families was $3,077 and the range was from $1,200 to $5,560 per year. Thirty-five percent, 14, of the sample had incomes of less than $2,600 per year. Only three families reported incomes of less than $1,500 per year.

Occupation

Mothers were asked to record both their own and if applicable, their spouses occupations, employment status, and whether or not they were currently receiving training. Forty percent, 16, of the positions held by the mothers were unskilled; all were cooks or domestics. Semi-skilled jobs were held by 42.5 percent, 17, of the mothers and included respectively, 2.5 percent, 1, cashier, 10 percent, 4, assembly line workers, 7.5 percent, 3, beauty assistants, 7.5 percent, 3, clerks, 7.5 percent, 3, nurses' aides, and 7.5 percent, 3, teachers' aides. Two mothers (5 percent) held skilled positions, typist and x-ray technician. All mothers reported they were employed or were in school except for five (12.5 percent) who are receiving welfare assistance.

Of the thirteen fathers reported to be living at home, 76.9 percent, 10, were gainfully employed and among the unemployed, one (7.6 percent) was a trainee whereas two (15.4 percent) were physically disabled and receive welfare benefits.

Four fathers (31 percent) were unskilled and all were laborers.

Semiskilled positions held by five fathers (38.4 percent) included 15.4 percent, 2, clothes pressers, 15.4 percent, 2, truck drivers, and 7.6 percent, 1, mechanic's helper. Of the three fathers (23 percent) who were skilled,all were non-commissioned officers in the military service.

The unemployment rate of the parents, fathers 2 (15 percent) and mothers on welfare 5 (12.5 percent) included in this study was somewhat higher than a similar rate for the greater Oklahoma City metropolitan area. The Oklahoma State Employment Security Commission estimated for March, 1971, a total unemployment rate of approximately 3.8 percent for the Oklahoma City metropolitan area; however, blacks were thought to have the slightly higher rate of 5 percent (98).

Children in the Home

There were one hundred-forty-three children living in the forty families and about 68 percent, 98, of the children were below the age of ten. There was an average of approximately 3.6 children per family. The youngest child was eight months and the oldest was nineteen years old. Approximately 22 percent, 9, of the respondents reported five or more children in their homes.

Family Size

Family size ranged from two to nine persons and approximately 4.8 persons resided in each of the forty households. When family size and poverty status were considered jointly, nearly 72.5 percent, 29, of the families had five or less family members. Since approximately 33 percent, 23, of the respondents had families with four or less members and were below the Office of Economic Opportunity poverty status, it does

not appear that family size is an important consideration for the poverty status of this group.

CHAPTER III

RESULTS

Maternal Involvement

From a possible score of four hundred points, the forty mothers attained a mean score of 293.8 on the Maternal Involvement Questionnaire with a range from 225 to 325. Regarding the ten sectional scores, Independence and Aggression in Play, yielded the least deviation from the individual means and Independence from Mother showed the greatest deviation. These data are shown in Table 2.

TABLE 2

MEANS, VARIANCE, AND STANDARD DEVIATIONS ON THE MATERNAL INVOLVEMENT QUESTIONNAIRE

Sections of Questionnaire	$\bar{x}$	Var.	S.D.
Independence from Mother	323.2	30.37	5.51
Independence in Play	179.2	4.89	2.21
Aggression in Play	127.7	4.89	2.21
Autonomy in Play	274.5	10.09	3.17
Mealtime Activities	333.2	13.55	3.68
Personal Habits	352.2	7.92	2.81
Bedtime Activities	313.2	10.99	3.31
Toilet Training	349.5	8.20	2.86
General Discipline	256.0	5.73	2.39
Parent-Child Relationships	436.7	15.66	3.95
Total Group (N = 40)	293.8	273.73	16.54

Children's Initial Performance on the Vane Kindergarten Test

The administration of the first Vane Kindergarten Test provided a mean full scale score of 96.6, and both the Perceptual-Motor and Draw-A-Man subtests scores were within the normal range of intelligence [90-100]; however, the Vocabulary subtest score bordered on low average intellectual functioning [80-89] (99). A summary of the initial Vane Kindergarten Test findings are shown in Table 3.

TABLE 3

MEANS, VARIANCE, AND STANDARD DEVIATIONS OF CHILDREN'S PERFORMANCE ON THE VANE KINDERGARTEN TEST (VKT) AT INITIAL TESTING

Subtests	$\bar{x}$	Var.	S.D.
Perceptual-Motor	101.8	98.38	9.92
Vocabulary	89.2	175.32	13.24
Draw-A-Man	98.7	314.66	17.73
Total (VKT) N = 40	96.6	196.24	14.00

Hypotheses

I. There is a significant positive relationship between the educational performance of black pre-school children and maternal involvement.

> Sub-Hypothesis - High total percentile scores on the Vane Kindergarten Test will be significantly related to a high degree of maternal involvement. Low total percentile scores on the Vane Kindergarten Test will be significantly related to a low degree of maternal involvement.

Table 4 shows the means of the first Vane Kindergarten Test by degree of maternal involvement. In order to determine whether there was a significant correlation between the Vane Kindergarten Test scores and

TABLE 4

A COMPARISON OF THE MEANS OF THE INITIAL VANE KINDERGARTEN TEST BY HIGH AND LOW MATERNAL INVOLVEMENT

Maternal Involvement[1]	Vane Kindergarten Test 1 (N = 40) Total $\bar{x}$	Perceptual-Motor $\bar{x}$	Vocabulary $\bar{x}$	Draw-A-Man $\bar{x}$
High (N = 22)	97.9	103.7	88.9	99.9
Low (N = 18)	96.4	99.2	90.8	98.3

[1]High maternal involvement included scores above the mean (293.8) and low maternal involvement included scores below the mean.

maternal involvement scores, a Spearman Rank Order Correlation was carried out. There was no significant correlation between maternal involvement and the total scores on the Vane Kindergarten Test ($r = .05708$). In addition there were no significant correlations between maternal involvement and the three subtests of the Vane Kindergarten Test (Perceptual-Motor $r = .19249$; Vocabulary $r = .09461$; and Draw-A-Man $r = -.01873$); therefore, Hypothesis I was rejected.

II. There is a significant positive relationship between the educational progress of black pre-school children and maternal involvement, with respect to the time spent in pre-school.

In order to determine whether there was a significant positive correlation between the educational progress of black pre-school children and maternal involvement, a Spearman Rank Order Correlation Coefficient was carried out. Table 5 shows these results. There was no significant correlation between the total Vane Kindergarten Test scores or between the three subtests in the two testing periods. It is of interest to note, however, that the Draw-A-Man subtest was the only subscale that showed a positive mean change from the first to the second test.

> Proposition 1 - Children with high maternal involvement will show significantly greater educational progress over a period of four months than children with low maternal involvement.

When the changes in Vane Kindergarten Test scores for children with high maternal involvement were considered, no positive change was observed over the four months period. The Draw-A-Man subtest was the only subtest that showed a positive mean change over the four months. All changes in the Vane Kindergarten Test scores among those children with low maternal involvement on the total (fullscale) Vane Kindergarten Test and the Perceptual-Motor, Vocabulary, and Draw-A-Man subtests were

TABLE 5

SPEARMAN RANK ORDER CORRELATION COEFFICIENTS BETWEEN
VANE KINDERGARTEN TEST 2 MINUS TEST 1

Vane Kindergarten Test	Test 1 $\bar{x}$	Test 2[1] $\bar{x}$	Test 2 Minus Test 1[1] $\bar{x}$	S.D.	r =
Total	96.6	95.1	-1.3	8.94	.14510
Perceptual-Motor	101.8	100.7	-1.1	13.84	.08500
Vocabulary	89.3	85.7	-3.4	15.76	.03952
Draw-A-Man	98.7	99.0	0.7	16.00	.25857

[1]Two children included in the initial testing dropped out prior to the second test; therefore, the sample size is 38 instead of 40.

negative and not statistically significant; therefore, Proposition 1 was rejected.

Proposition 2 - High maternal involvement is significantly related to high perceptual-motor and vocabulary skills.

The Perceptual-Motor subtest was selected to determine if children with high maternal involvement would demonstrate a higher degree of proficiency than children with low maternal involvement due to the behavioral expectations set by their mothers. No positive change in the Perceptual-Motor subtest was observed for children with high maternal involvement over the four month time period. The Vocabulary subtest was of special interest because it was thought that children with high maternal involvement would receive more verbal reinforcement at home thus increasing their vocabulary usage over the four month time period than would children with low maternal involvement. No positive change was observed for children with high or low maternal involvement on the Vocabulary subtest. These data are presented in Table 6.

A summary of the test data for all the subjects is found in Appendix F.

Teacher's Ratings of Children's Classroom Adjustment

Although the primary interest of this study was in the relationship between maternal involvement and changes in the Vane Kindergarten Test, it was also important to gain a perspective of how teacher's ratings of the children's classroom adjustment was related to maternal involvement and changes in Vane Kindergarten Test scores.

Teachers were asked to rank the classroom adjustment in their respective classes as above average, average, or below average. Teacher

TABLE 6

DIFFERENCES BETWEEN VANE KINDERGARTEN TEST 2 MINUS TEST 1 BY HIGH AND LOW MATERNAL INVOLVEMENT

Maternal Involvement	Test 1	Test 2[1]	Test 2 Minus Test 1[1]	
High	$\bar{x}$	$\bar{x}$	$\bar{x}$	S.D.
Total (VKT)	97.1	97.2	- .15	9.847
Perceptual-Motor	103.7	102.7	-1.38	14.350
Vocabulary	88.4	86.7	-1.89	13.079
Draw-A-Man	99.1	106.9	2.94	16.810
Low				
Total (VKT)	95.9	92.6	-3.32	7.712
Perceptual-Motor	99.5	98.1	- .95	13.617
Vocabulary	90.3	84.5	-5.52	18.778
Draw-A-Man	98.3	95.2	-1.94	15.006

[1]Two children included in the initial testing dropped out prior to the second test; therefore, the sample size is 38 instead of 40.

A rated thirteen children. Of this group two were above average, seven average, and four below average. Teacher B rated fourteen children; two were above average, four average, and eight below average. Teacher C rated thirteen children; eight were rated as average and five were rated below average. The ratings of all three teachers were combined within the three categories of adjustment (See Table 7).

The degree of maternal involvement was compared with teacher's ratings of classroom adjustment. No relationship was found between maternal involvement and the teacher's ratings. Because of the small frequencies in some of the cells, a chi-square test could not be computed. A majority of the children irrespective of the degree of maternal involvement were rated as average or below average by their teachers.

Changes in the Vane Kindergarten Test scores between the two testing periods were compared with teacher's ratings of classroom adjustment (See Table 8). Children rated as above average showed a positive change on the Vocabulary subtest. Children rated as average showed positive changes on the Perceptual-Motor and Draw-A-Man subtest. Children rated as below average showed a positive change on the Draw-A-Man subtest. Of particular interest is the large negative change in the Vocabulary subtest of children rated as average and the Perceptual-Motor subtest of children rated as below average in classroom adjustment.

TABLE 7

DEGREE OF MATERNAL INVOLVEMENT BY TEACHER'S RATINGS
OF CHILDREN'S CLASSROOM ADJUSTMENT

Ratings of Classroom Adjustment	Maternal Involvement High N =	High Percent	Low N =	Low Percent	Totals N =	Totals Percent
Above Average	3	(13.6)	1	(5.6)	4	(10.0)
Average	10	(45.5)	9	(50.0)	19	(47.5)
Below Average	9	(40.9)	8	(44.4)	17	(42.5)
Totals	22	(100.0)	18	(100.0)	40	(100.0)

TABLE 8

CHANGES IN THE VANE KINDERGARTEN SCORES BETWEEN TWO TESTING PERIODS BY TEACHER'S RATINGS OF CHILDREN'S CLASSROOM ADJUSTMENT

Ratings of Classroom Adjustment	Changes in the Vane Kindergarten Test Between the Two Testing Periods[1]			
	Perceptual-Motor Subtest	Vocabulary Subtest	Draw-A-Man Subtest	Total VKT Score
Above Average (N = 4)	-16.0	19.0	-25.0	- 7.4
Average (N = 18)	34.0	-129.0	38.0	-22.3
Below Average (N = 16)	-72.0	- 18.0	25.0	-14.0

[1]Two children included in the initial testing dropped out prior to the second test; therefore, the sample size is 38 instead of 40.

CHAPTER IV

DISCUSSION

The fact that no statistically significant correlation was found in either Hypothesis I or II raises important issues for discussion regarding the relationship between maternal involvement, educational performance, and educational progress.

From the onset of this study, it was recognized that any attempt to quantitatively assess the relationship between mother and child would be a complex task. In the first place, maternal involvement covers a wide range of behavior and attitudes that are constantly being modified by the many environments that both mother and child are exposed to and engaged in. Secondly, any attempt to measure maternal involvement involves decisions about what aspects of the mother-child relationship are to be measured. The behavioral and attitudinal factors that may actually be most important in the relationship between mother-child may not be so viewed by an outside observer or researcher; therefore, an assessment of maternal involvement may be more atuned to idealistic rather than realistic factors. In addition, the transient or situational aspects of the mother-child relationship may escape the researcher's eye and remain unanswered or the transient and situational aspects may be over emphasized by a mother who chooses to conceal the real nature of the relationship she has with her child. Even attempts to observe the mother-child interactions in the

home environment are subject to modification due to the presence of an observer.

The assessment of maternal involvement in this study, therefore, was determined in an interview conducted by a female of the same race. The lack of statistically significant findings regarding maternal involvement in the present study would appear to be due more to the complexity of objectively measuring it than connoting its insignificance. Indeed, when a representative case study illustrating a high degree of maternal involvement is contrasted with one demonstrating a low degree of maternal involvement, the difficulty in quantifying the mother-child interaction becomes apparent.

Case 1 - High Maternal Involvement

Mrs. X is a twenty-one year old mother of two children; a girl, age five, and a boy, age four. She divorced her husband three years ago for mental cruelty. She completed high school and later received training as a nurse's aide. At the present time she is employed at a local hospital, but due to the poor wages received, she must work after hours on a part-time basis as a domestic.

Although Mrs. X reportedly is never away from home more than three evenings a week, it is necessary that neighbors or her mother keep the children. There apparently is considerable resentment between Mrs. X and her mother and the children frequently are caught in the conflict. Mrs. X resents her mother for at least two reasons. While growing up, her mother reportedly treated her abusively, using vulgar language and taking her to bars. Furthermore, the grandmother continues these actions with the children. Because of this, Mrs. X makes a practice of leaving the

children with neighbors; however, the grandmother, it is said, will come intoxicated to a neighbor's home and demand the children come with her. She then either goes to a bar or goes home and gets "sloppy drunk".

Several months ago the grandmother came to Children's House and demanded that the children go with her, saying that Mrs. X had requested she pick them up. A telephone call was made to the mother but she could not be reached; therefore, the children were allowed to go with the grandmother. About one hour later the little girl, age five, returned to the child development center trembling. She explained that the grandmother had taken them to a local bar and that she "did not want to stay there".

Although the grandmother creates many problems, it would be a mistake to say she creates all the problems for this family. It is said that Mrs. X also drinks, especially when she is depressed. On these occasions, she drinks all weekend; however, no severe neglect of the children has been reported. It is interesting to note that the children cover for her. They apparently understand the stress this mother feels and do not seem to be upset by her actions according to the staff at the child development center. In spite of these observations, Mrs. X is able to give of herself to her children. She frequently takes them on outings to the playground, a park nearby, to church, or to a shopping center "just to look around". She also reads to the children at night when she has time, and invites neighborhood children for parties when she can afford it. Through her work at the hospital, she has come in contact with many mothers with whom she frequently discusses children. She likes many of their ideas. For example, it was at the hospital she got the idea to

have a neighborhood party for the children. One of the reasons she works nights is to provide "a few of the extras that will help her children to get a taste of the finer things in life".

It should be noted that home visits have revealed that the children are well groomed and that a relaxed atmosphere with mutual understanding exists between this mother and her children. Mrs. X has reportedly taught her children to be independent and to take care of themselves. They make their own beds and dress themselves. The five year old girl was rated above average by her teacher. It seems likely then that Mrs. X's efforts to give her children "a taste of the finer things in life" have not gone unrewarded.

This mother's score on the Maternal Involvement Questionnaire was 308 and her five year old child scored high on the Vane Kindergarten Test at both testing periods (106.7 and 109.3).

Case 2 - Low Maternal Involvement

Mrs. Y is a forty-four year old mother of seven children. She has six boys, ages five, six, seven, eight, nine, eleven, and one girl, age ten. Mrs. Y has been married about twelve years. The relationship between Mr. and Mrs. Y reportedly is a good one; however, Mrs. Y appears quite dependent on her husband for decision making. Neither Mr. nor Mrs. Y attained a high school education. Perhaps their lack of educational success is related to their disabilities. Mr. Y is physically disabled and Mrs. Y is mentally retarded. Both came from poor families and it seems likely that education was either not valued by them or not available while they were growing up. Welfare assistance is their major source of income; however, Mr. Y does odd jobs and Mrs. Y works part

time as a domestic.

Even though both Mr. and Mrs. Y have handicaps, they make contributions to their family and community. Mr. Y assumes a great deal of the responsibility for the family's welfare as well as volunteering his services when repairs are needed at the child development center.

Although Mrs. Y is not as involved in civic projects as is her husband, she does attend church regularly. Her major efforts are cooking, cleaning, and sewing for the family. Her endeavors in the home allow the family to "scrape by".

Mrs. Y is not only an avid "church goer" but appears to be preoccupied with religion. She tends to look for magical answers to the problems of living and to believe strongly in fate. It is said that she "looks to God to solve the family's problems yet feels grateful to Him for their blessings". Sunday is the "family day" in the Y's home. After church they reportedly spend their afternoon discussing the sermon with the children and talking about the reactions of various members of the congregation to the sermon. The heavy religious orientation found in this home would appear to be an effort to compensate for the multitude of problems they face daily.

Neither parent is able to read nor converse well on subjects other than religion. They tend to demonstrate their love more by giving the children money for "treats" like ice cream and by tending to the necessities of life.

All seven of the children are apparently healthy and well groomed. The older children look after the younger ones; yet they could not be described as being particularly close.

The five year old boy is a loner. He does not seem to get involved with the other children at kindergarten; yet his teacher considers him to have an average adjustment in the classroom. He reportedly tries hard to do his work and "minds well", but does not appear to get much from the experience. Although it is possible that he could have some degree of retardation, it remains a strong possibility that the negative features of his home environment do much to thwart his capabilities and potentialities.

This mother scored 291 on the Maternal Involvement Questionnaire and her child scored 90.3 and 90.3 respectively on both administrations of the Vane Kindergarten Test.

While neither child in these two contrasting families showed a significant difference in their educational progress in pre-school as assessed by the Vane Kindergarten Test, the involvement of the two mothers with their children differ. Despite the drinking of mother X, she responds to the needs of her children and they, in turn, respond to her. Mother Y, on the other hand, appears to respond to the immediate physical needs of her children and utilizes religious belief as the main source of emotional support for both her and her children. It would appear that an assessment of maternal involvement would necessarily have to tap the value system of the mother, and indeed, include a consideration of the reinforcement or conflict in certain values the mother learned in her own home environment. Since this type of investigation would entail a long-term in-depth study, the method of assessing maternal involvement utilized was designed to identify major themes or aspects of the maternal value system. Obviously, however, the instrument was not subtle, comprehensive

or discriminating enough in measuring aspects of the maternal-child relationship.

It is clear from the case studies that a myriad of ecological factors are important in understanding the type of mother-child interaction which occurs in low income black families (13, 14, 15, 16, 17, 18 and 19).

The average gross income of the families in this study was $3,077 per annum; 80 percent of the families were below the Office of Economic Opportunity poverty level. Fifteen percent of the fathers and 12.5 percent of the mothers were unemployed. Despite the high rate of economic deprivation among relatively young parents (mother's mean age 28.8 years) the high degree of motivation shown by these parents was especially noteworthy. It was observed that most of the children arrived on time to school with washed faces and clean clothes. In addition, many of the mothers demonstrated their interest in the pre-school program by frequent conversations with teachers about their children's progress.

The matriarchal label so often applied to black families was thought to be erroneous by Herzog (32), who argued that a stable marriage in which the man was the chief breadwinner was desired by black people. The forty mothers in this study were asked who was the head of their respective households. Thirteen married mothers (32.5 percent) reported that their husbands were household heads; however, 65 percent, 26, of the mothers were separated or divorced and were heads of their households. The high incidence of separation and divorce would appear to necessitate the need for surrogate mothers (i.e., sisters, grandmothers, aunts, and neighbors) to assume responsibilities for the daily care of the children

(46 and 47). Because of the impact each mother or surrogate mother can have on a child's total development, it was viewed as important to ascertain the time each mother spends with her child or children. Ninety-two percent, 37, of the mothers said they spent more time with their children than did any other person, while the remaining 8 percent, 3, reported that a sister and grandmother kept their children more than they did. Because of the amount of time the children spend at Children's House, mothers do not appear to rely as heavily on relatives or neighbors to keep their children. It is likely that due to the capability to educate and/or otherwise cater to the needs of the young through child development centers like Children's House that children receive more opportunities to learn than would be possible if surrogate mothers (relatives and neighbors) assumed the sole role of caretaker.

It is doubtful if neighbors or relatives have the facilities and necessary equipment to promote learning to the same degree that can be found at Children's House. Child development centers such as Children's House provide a conducive atmosphere for the children's learning while freeing their mothers to work or receive training. This supportive role is the helping hand needed by these families to break the poverty cycle.

Over 50 percent of both the mothers, 21, and fathers, 7, graduated from high school. This relatively high level of parental educational achievement was perhaps an additional factor in the children attending a pre-school (50).

The scores obtained by the forty children on the first Vane Kindergarten Test were within the normal range of intelligence [full scale score 96.6] (99). The children achieved higher mean scores on the

Perceptual-Motor subtest than on any of the other subtests in the Vane Kindergarten Test. Since this subtest measures both perceptual and fine motor skills, it would be difficult to isolate the contribution of each of these factors; however, it should be noted that lower-class black children have usually been found to demonstrate slower perceptual development than white middle class children (63).

In the main, black children are credited with more motoric expression than white middle class children due to the emphasis on the physical aspects of living (31 and 65). During the testing periods, the children seemed quick and alert in taking instructions as demonstrated by their subsequent actions of drawing the various items for the Perceptual-Motor and Draw-A-Man subtests. Their pre-school exposure apparently has been well adapted to the concrete learning style reported as common among black children (63).

A further explanation may, however, be that these children are receiving a better perceptual orientation than was reported by the Ausubels (63). In their comparative study of middle and lower class children, the middle class children were found to be more adept at making abstract relationships. Since more than half of the parents in this study had completed high school, it seems reasonable to conclude that a majority of them are quite capable of making abstract and categorical relationships, therefore, making it possible for them to provide a more positive influence on the development of perceptual skills for their children than has been previously reported (63).

When the first Vane Kindergarten Test was correlated with the degree of maternal involvement, it was observed that the mean total Vane

Kindergarten Test score and the Perceptual-Motor and Draw-A-Man subtests yielded higher scores for children with high maternal involvement than among those with low maternal involvement. The only low maternal involvement score that was higher was found on the Vocabulary subtest.

Learning in the home environment is apparently reinforced among many of these children and the contributions of the home and pre-school program are undoubtedly supplementary. Although the pre-school program provides a stimulating environment for learning, there must be reinforcement in the home to enhance educational progress (10). It was assumed that a pre-school educational exposure could provide the necessary environment to facilitate learning and hence that children would show significant positive educational progress. Intellectual (77 and 81), language (83, 84, 85 and 86), and fine motor skills (87 and 88) gains have been found to result from classroom exposure in pre-school programs. When the educational progress of the thirty-eight children who were in the study for both testing periods was examined, it was observed that only the Draw-A-Man subtest yielded a mean increase among the four Vane Kindergarten Test scores.

A negative change of the total mean Intelligent Quotient score was not expected because of the high results obtained during the first Vane Kindergarten Test. It was also of interest to note that the Perceptual-Motor and Vocabulary subtests showed a decrease.

The circumstances at the time that the second Vane Kindergarten Test was given may have had an impact on the results obtained and subsequently on educational progress. As with most pre-school kindergarten type programs, a graduation exercise is held during the month of May and

as with most exercises, practice is required in order that these can be successfully carried out. The rehearsals and graduation exercises at Children's House unfortunately took place during the week prior to testing, and furthermore the teachers' felt that once the children were graduated that many mothers would begin to take their children out of school. When the second Vane Kindergarten Test was administered, the children were hyperactive perhaps as the result of the excitement associated with graduation and once graduation had taken place, less emphasis was placed on formal classroom procedures and more emphasis was placed on activities outside the classroom by their teachers.

The differences between the first and second administration of the Vane Kindergarten Test were correlated with the degree of maternal involvement. Children with high maternal involvement had higher means on the Draw-A-Man subtest at the second testing period. The Draw-A-Man subtest was the only Vane Kindergarten subtest in both testing periods that showed an increase. Perhaps this further substantiates the fact that these children have a relatively healthy self-concept (67).

Because of the "motoric" orientation common among black children, it was thought that high maternally involved children would be allowed more opportunity for motor release as their mothers were expected to be less authoritarian and restrictive in their child rearing methods than less involved mothers (41, 42, 43 and 44). No positive Perceptual-Motor change was observed to support this proposition. Furthermore, less individual deviation was found from the means of low maternally involved children on the Perceptual-Motor subtest scores over the four months than from the means of children with high maternal involvement. These negative

results may be the result of the problems associated with the second administration of the Vane Kindergarten Test previously discussed.

Limited language ability among black children often results in poor preparation for academic success (56). Non-verbal signals between the lower class mother and her child have been observed as pre-emptors to spoken language thus creating a heavy reliance on body language for communicating (57). No increase was observed among high maternally involved children on the Vocabulary subtest between the two testing periods. The scores of high maternally involved children, however, showed less deviation from the mean on the Vocabulary subtest than did the scores of low maternally involved children. This may indicate that high maternally involved children were able to retain some knowledge of the list of vocabulary words on the subtest and ask questions about their usage, thus enabling them to attain better mean scores than children with low maternal involvement. Finally, the fact that no significant changes were observed in the children's educational progress as assessed by the Vane Kindergarten Test may indicate that this test was not the most effective measure of educational progress or that the four months time span between testing periods was too short to adequately assess progress. Although the educational progress of these children was not statistically significant, the author's experience as an observer indicated that the teachers at Children's House provided an environment conducive to learning. The teacher's knowledge of the children and their families gave them a unique vantage point for rating classroom adjustment; therefore, the teacher's assessment of how well each child was adjusted at school (how he performed on learning exercises, his ability to take instructions, getting along

with other children, etc.) was an important consideration in studying the children.

When children with high maternal involvement were compared to their teacher's ratings, approximately 86 percent were average or below average. It was expected that there would be a higher percentage of children with high maternal involvement rated as above average and average and that more children with low maternal involvement would be rated below average. Furthermore, it was expected that children with positive differences on the total Vane Kindergarten Test and its subtests would be rated above average or average by their teachers; however, no such increases were found.

On the whole, the teacher's ratings of both maternal involvement and differences in Vane Kindergarten Test scores did not reflect results that could be clearly interpreted. The various factors that may have been operative during the testing situations and in the teachers' definitions of classroom adjustment could not be totally controlled.

Implications of Study

Because of the complexities of the mother-child relationship and the infinite number of factors that may influence educational progress, it is necessary that the instrumentation used to measure each be carefully developed; further, the method and place of data collection are important factors in minimizing bias. Sample selection and the time between study periods should also be carefully considered in order that educational progress can be accurately measured.

For future research endeavors, it is recommended that maternal involvement be measured by a questionnaire, supplemented by case studies

and observation in the home environment in order that more facets of the influences on educational progress can be understood. The questionnaire should include short, simple, non-threatening direct questions based on a standardized scale, if possible, that ascertains the types of learning that take place in the home, whereas the case study should fully explore the ecology of the home environment.

The measurement of educational performance and progress should perhaps include several psychological tests to enhance the validity and reliability of the results obtained. Should teacher assessments of the children's classroom adjustment be used, it is necessary to utilize a more structured measuring device that specifically examines different parameters of classroom adjustment. The time between testing periods, if repeated measurements are to be taken, should be increased as four months may not have been sufficient to measure educational progress. In addition, a larger sample and perhaps a comparative study with another pre-school would offer more insight into the effects of different learning environments on pre-school educational progress.

CHAPTER V

SUMMARY

The purpose of this dissertation was to investigate the relationships between black mothers' involvement with their children and the influence of maternal involvement on their children's educational performance and progress in a pre-school program. The independent variable was educational progress, the dependent variable was maternal involvement, and the intervening variable was the time the children spent in the pre-school program.

The hypotheses for this study were as follows:

Hypotheses

I. There is significant positive relationship between the educational performance of black pre-school children and maternal involvement.

   Subhypothesis - High total percentile scores on the Vane Kindergarten Test will be significantly related to a high degree of maternal involvement. Low total percentile scores on the Vane Kindergarten Test will be significantly related to a low degree of maternal involvement.

II. There is a significant positive relationship between the educational progress of black pre-school children and maternal involvement with respect to the time spent in pre-school.

   Proposition 1 - Children with high maternal involvement will show significantly greater educational progress over a period of four months than children with low maternal involvement.

   Proposition 2 - High maternal involvement is significantly related to high perceptual-motor and vocabulary skills.

A Head Start child development center was the research setting for this dissertation. Forty, five to six year old black children and their mothers constituted the initial sample; however, two dropped out while the study was being carried out thus making the final sample size thirty-eight.

In order that maternal involvement (what the mother allowed the child to do) could be assessed, mothers were interviewed using an eighty item questionnaire developed from Newson and Newson's study, Four Years Old in an Urban Community and Schaffer and Bell's Parent Attitude Research Instrument.

The interview also elicited family background factors. Natural mothers' ages ranged from twenty-one to forty-four years with a mean age of twenty-nine years. Seventy-four percent, 28, of the mothers were between twenty-one and thirty-one years of age. One grandmother, fifty-eight years old had custody of two children, ages one and five.

Poverty status was determined by using the sliding scale developed by the Office of Economic Opportunity in which possible incomes were related to family size once residency was established. All forty families had a non-farm status. Eighty percent, 32, of the families were below the poverty level, 7.5 percent, 3, were at the poverty level, and 12.5 percent, 5, were above the poverty level. Of the thirty-two families below the poverty level, seventy-two percent, 23, contain five or less family members while 28 percent, 9, had six or more members.

Approximately fifty-two percent, 21, of the mothers had completed high school and only 7.5 percent, 3, had attained one to three years of college. There were no college graduates. About half of the thirteen

fathers were high school graduates.

Approximately thirty-two percent, 13, of the sample were married; 15 percent, 6, were separated; 50 percent, 20, were divorced; and 2.5 percent, 1, was a widow.

The average family income was $3,077, ranging from $1,200 to $5,560 per year. Thirty-five percent, 14, of the sample had incomes of less than $2,600 per year. Only three families reported incomes of less than $1,500 per year.

Mothers were asked to record both their own and if applicable, their spouses occupations, employment status, and whether or not they were currently receiving training. Forty percent, 16, of the positions held by the mothers were unskilled; all were cooks or domestics. Semi-skilled jobs were held by 42.5 percent, 17, of the mothers and included respectively, 2.5 percent, 1, cashier, 10 percent, 4, assembly line workers, 7.5 percent, 3, beauty assistants, 7.5 percent, 3, clerks, 7.5 percent, 3, nurses' aides, and 7.5 percent, 3, teachers' aides. Two mothers (5 percent) held skilled positions, typist and x-ray technician. All mothers reported they were employed or were in school except for five (12.5 percent) who are receiving welfare assistance.

Of the thirteen fathers reported to be living at home, 76.9 percent, 10, were gainfully employed and among the unemployed, one (7.6 percent) was a trainee whereas two (15.4 percent) were physically disabled and receive welfare benefits.

Four fathers (31 percent) were unskilled and all were laborers. Semiskilled positions held by five fathers (38.4 percent) included 15.4 percent, 2, clothes pressers, 15.4 percent, 2, truck drivers, and 7.6

percent, 1, mechanic's helper. Of the three fathers (23 percent) who were skilled, all were non-commissioned officers in the military service.

There were one hundred-forty-three children living in the forty families and 68 percent, 98, of the children were below the age of ten. There was an average of 3.6 children per family. The youngest child was eight months and the oldest was nineteen years old. Twenty-two percent, 9, of the respondents reported five or more children in their homes.

An average of 4.8 persons resided in each of the forty households and family size ranged from two to nine persons.

A retired black nurse conducted the interviews with the mothers; however, the author monitored the consistency in instructions and the interview techniques from an adjoining room.

The Vane Kindergarten Test was selected to measure educational performance and progress because of its reliability and simplicity in administration. This test is composed of three subtests, (i.e., Perceptual-Motor, Vocabulary, and Draw-A-Man). For the educational performance test, Vane Kindergarten Test I, the mean full scale score was 96.6 and for Vane Kindergarten Test II, 95.1.

A Spearman Rank Order Correlation was carried out to test Hypotheses I and II. No significant positive correlations were observed for either Hypothesis I or II; therefore, both were rejected.

In order that some perspective of the children's classroom adjustment be obtained, their three teachers were asked to rate them as above average, average, or below average. The teachers rated four above average, nineteen average, and seventeen below average. The teacher's ratings were compared to the degree of maternal involvement and changes

in the Vane Kindergarten Test scores between testing periods. No positive relationships were found.

Although alternations in the focus of the questionnaire and perhaps the addition of case studies would improve the effectiveness of the study design, its instrumentation may prove useful as a screening device for selection of appropriate learning environments in a pre-school program. The techniques of this study might also be used to assess changes in maternal-child relationships and their impact on the child's later educational performance as well as to predict educational performance in grade school. This would allow pre-school educators an opportunity to intervene at an early stage in providing services for those children who are deficient in areas important to educational progress.

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APPENDIXES

APPENDIX A

LETTER TO MOTHERS

Children's House
January 21, 1971

Dear Mother,

I am conducting a study at Children's House in an effort to learn more about children and the kind of problems that face you from day to day.

I am requesting that all of the mothers of children ages five who are being taught by Teachers A, B. and C* come any week day afternoon during the coming week except Wednesday, January 27. The dates to come are January 25, 26, 28, and 29 at a time that is convenient for each mother. The place to come is the second floor of Children's House (Brick Building).

The times on Monday, Tuesday, Thursday, and Friday are 2:30, 3:00, 3:30, 4:00, 4:30, 5:00, and 5:30 p.m.

The purpose of this request is to ask each mother to fill out a questionnaire which is about her child. The type of information I am interested in focuses on what your child does and what you think about what he/she does. This questionnaire should not take more than fifteen minutes of your time!

No questions ask highly personal information. All questions require only a check mark to record the answer. A black lady interviewer** well-known at Children's House will ask the questions.

Your cooperation will be gratefully appreciated and the information you provide will be most useful! If you cannot come at any of the times mentioned, please let me know or your child's teacher know and I will try to make other arrangements that are more convenient for you. If you have any questions, I will be happy to talk with you.

Please check a time that is convenient for you on the attached sheet and return it to your child's teacher tomorrow.

Sincerely,

Robert Johnson

*Names of the teachers were omitted to protect their privacy.

**Name of the interviewer was omitted to protect her privacy.

PLEASE RETURN THIS FORM TO YOUR CHILD'S TEACHER TOMORROW, FRI., 1/22/71

Mother's Name _____

Please check a date		Please check a time						
		2:30	3:00	3:30	4:00	4:30	5:00	5:30
	Monday, Jan. 25							
	Tuesday, Jan. 26							
	Thursday, Jan. 28							
	Friday, Jan. 29							

APPENDIX B

MOTHER'S INTERVIEW SCHEDULE

Mother's Name _____

Mother's Age _____

Child's Name _____

Child's Date of Birth _____

PLEASE CHECK THE ANSWER WHICH YOU THINK BEST DESCRIBES YOUR CHILD OR YOUR RELATIONSHIP WITH HIM/HER.

PART A

I.

Independence from Mother

1. If time permits, does your child dress himself/herself in the morning?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

2. If time permits, does your child undress himself/herself at night?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

3. If time permits, does your child put away his/her own clothes when he/she takes them off?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

4. If time permits, does your child wipe himself/herself when he/she goes to the toilet?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

5. If time permits, does your child put his/her toys away when he/she has finished playing with them?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

6. If time permits, does your child tie his/her own shoes?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

7. If time permits, does your child brush his/her own teeth?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

8. If time permits, does your child button his/her own clothing?

   Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

Possible Subscore 40

II.

Independence in Play

9. Does your child like to play by himself/herself?

   Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

10. Do you let him/her play outside, around the house, while you are inside?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

11. Does your child play without needing your attention for as much as 10 minutes?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

12. When busy at the stove cooking dinner, do you stop to play with your child when he/she asks you?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

13. Is your child able to amuse himself/herself?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

Possible Subscore 25

Aggression in Play

14. When your child is at home, does he/she like to play with other children?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

15. When your child plays with other children at home and you see that there is a quarrel going on, do you step in to solve the problem?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

16. Do you tell your child to hit another child back?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

17. Does your child prefer to play with younger children?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

Possible Subscore 20

Autonomy in Play

18. Is your child allowed to make a noise, like imitating a truck or an airplane while he/she is playing in the house?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

19. Would you allow your child to play with water, clay, or playdoh in the house?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

20. Is your child allowed to get really dirty while he/she is playing?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

21. When your child is playing at something by himself/herself and having a good time, do you stop your work and join in?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

22. Does your child have any imaginary people, animals, or places that he/she brings into play?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

23. Does your child like to dance or sing?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

24. Is it alright for your child to make up stories or spin yarns?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

25. Does your child make a fuss when he/she has to stop playing to do something for you?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

Possible Subscore 40

III.

Meal Time Activities

26. Is your child a good eater?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

27. Are there any foods that your child never eats just because he/she dislikes them?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

28. Do you let your child decide how much he/she will have of a food that he/she dislikes?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

29. Does your child get something else to eat if he/she doesn't want what you have cooked for him/her for supper?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

30. Does your child have to eat meat and vegetables before eating cake, cookies, pie, or ice cream?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

31. Do you let your child use his/her fingers for eating things like meat, cut up vegetables and so on?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

32. Is your child allowed to bring toys or a book to the table?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

33. Is your child allowed to talk at the dinner table?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

34. Does your child try to use table manners?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

Possible Subscore 45

IV.
Personal Habits

35. Does your child bang his/her head?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

36. Does your child twist or pull his/her hair?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

37. Does your child suck his/her thumb?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

38. Does your child bite his/her nails?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

39. Does your child rock himself/herself?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

40. Does your child cry or whine?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

41. Does your child pick at his/her nose?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

42. Does your child play with his/her private parts?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

Possible Subscore 40

V.

Bedtime Activities

43. Is there anything special that you and your child have to do at bedtime like playing a game, reading a book, or anything like that?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

44. Once your child gets into bed, is he/she allowed to get out again and play around the room?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

45. Does your child have to have a light on in or near his/her room until he/she goes to sleep?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

46. Does your child ask for something to eat or drink after going to bed?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

47. Does your child sleep through the night?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

48. Does your child sleep with you?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

49. Does your child stay up at night if he/she doesn't seem sleepy?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

50. Does your child wake up afraid at night?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

Possible Subscore 40

VI.
Toilet Training

51. Does your child wet his/her pants during the daytime?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

52. Does your child soil his/her pants in the daytime?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

53. Does your child get a spanking for wetting or soiling his/her pants?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

54. Does your child wet the bed at night?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

55. When your child goes to the toilet during the night, does he/she go by himself/herself?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

56. Does your child see you undress?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

57. Does your child come into the bathroom while you are bathing?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

58. Does your child soil his/her pants after going to sleep?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

Possible Subscore 40

VII.
General Discipline

59. Does your child mind you well?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

60. Do you promise your child something as a reward for being good?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

61. Is it necessary to spank your child to get him/her to mind?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

62. Do you say that your child can't have something he/she likes such as sweets, television, or something like that if he/she has misbehaved?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

63. Do you send your child to bed for being naughty?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

64. Does your child come and tell you he/she has been naughty before you find it out for yourself?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

65. Is it important for your child to say he/she is sorry when he/she has done something wrong?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

66. Do you make your child go into another room and stay for awhile for being naughty?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

Possible Subscore 40

VIII.

Parent-Child Relationships

67. Children should be allowed to disagree with their parents if children feel their own ideas are better.

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

68. Children need some of the natural meanness taken out of them.

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

69. If small children refuse to obey, parents should whip them for it.

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

70. A mother should do her best to avoid any disappointment for her child.

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

71. It is necessary for a wife to tell off her husband in order to get her rights.

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

72. Children will get on a woman's nerves if she has to be with them all day.

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

73. Do you think that children should not learn things outside the home which make them doubt their parents' ideas?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

74. Do you agree that there is no good excuse for a child hitting another child back?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

75. Do you think that having to be with the children all the time gives a woman the feeling her wings have been clipped?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

76. Do you agree that children should be given a chance to try out as many things on their own as possible?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

77. Do you agree that it is very important that young boys and girls should not be allowed to see each other completely undressed?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

78. Do you think that if more parents would have fun with their children, the children would be more apt to take their advice?

Always 5 Most times 4 Sometimes 3 Rarely 2 Never 1

79. Do you think that some children are so naturally headstrong that a parent can't really do much about them?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

80. Do you think that a mother should make an effort to get her child toilet trained at the earliest possible time?

Always 1 Most times 2 Sometimes 3 Rarely 4 Never 5

Possible Subscore 70

Total Score 400

THANK YOU FOR YOUR COOPERATION.

Mother's Interview Schedule: PART B

INSTRUCTIONS: Please fill in the following information as accurately as possible.

1. Marital Status:

   Married__ Single__ Divorced__ Separated__ Widowed__

2. Occupation:

   Are you working now? Yes__ No__ What kind of job do you have?

   _____ If you are not working, are you in

   school now? Yes__ No__

   (ANSWER ONLY IF MARRIED) Is your husband currently working?

   Yes__ No__ What kind of job does he have? _____

   If he is not working, is he in school? Yes__ No__

3. How far did you go in school?_____(last grade completed)

   How far did your husband go in school?_____(last grade

   completed)

4. Who spends the most time with your child or children?

   You___ Father___ Sister___ Grandmother___ Grandfather___

   Neighbor___ Other _____

5. Whom do you consider the head of your household?

   Husband___ You___ Relative___ Other___

6. How many children do you have? _____

   What are their ages? _____

   _____

APPENDIX C

INTERVIEWER INSTRUCTIONS

Interviewer Instructions

(This is to be read by the interviewer)

This questionnaire is part of a research project for a doctoral dissertation for Robert Johnson from the University of Oklahoma Medical Center, School of Health.

The purpose of this research is to learn more about the children of Children's House and their parents. It is hoped that new information can be collected which will help Children's House in its continuing effort to find new and better ways to serve you.

No questions on this questionnaire ask highly personal information. All questions require only a check mark to record the answer you select. There are no right or wrong answers on this questionnaire. Regardless of the answer you decide on you can be sure that other people agree with you.

HAND OUT QUESTIONNAIRES!

On the cover sheet, in the spaces provided, please put your first and last names and your age. Next, please put your 5 to 6 year old child's name and birthdate.

Please turn to page number one. Each question will be read aloud one time. Please select your answer and place a check mark by it at that time.

Are there any questions before we begin (If no questions are ask then begin with question #1).

APPENDIX D

VANE KINDERGARTEN TEST FORM

Please reorder from: Clinical Psychology Publishing Co., Brandon, Vt.

VANE KINDERGARTEN TEST

1968, Julia R. Vane

Name_____

Date_____

B/d._____

Age_____

School_____

RH_____ LH_____

Fork_____

Wheel_____

B/d_____

Gift_____

Calendar_____

Alone_____

Short_____

Jolly_____

Silence_____

Wise_____

Straight_____

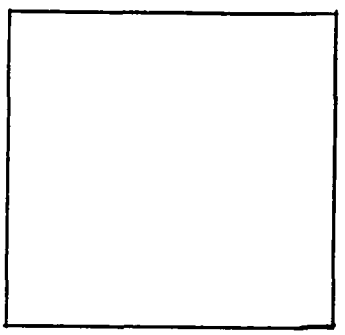
P-M IQ_____

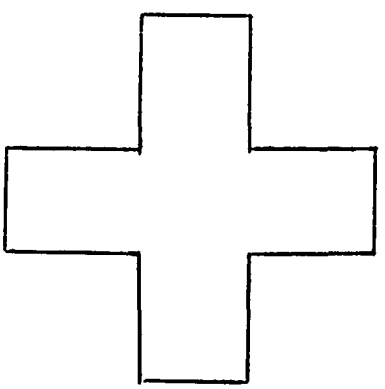
Voc. IQ_____

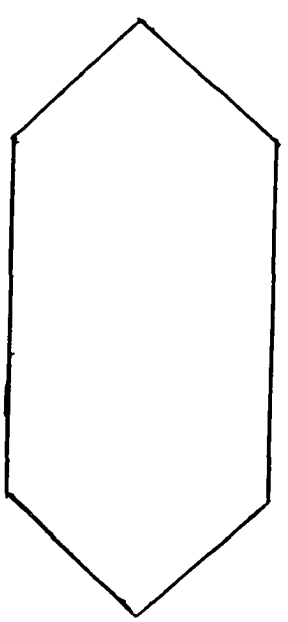
Man IQ_____

Full IQ_____

Voc. Score_____







APPENDIX E

OFFICE OF ECONOMIC OPPORTUNITY

POVERTY GUIDELINES FOR 1970

OEO INSTRUCTION 6004-1a

OEO 1970 Poverty Guidelines

Family Size	Non-Farm Family	Farm Family
1	$1,800	$1,500
2	2,400	2,000
3	3,000	2,500
4	3,600	3,000
5	4,200	3,500
6	4,800	4,000
7	5,400	4,500
8	6,000	5,000
9	6,600	5,500
10	7,200	6,000
11	7,800	6,500
12	8,400	7,000
13	9,000	7,500

For families with more than 13 members, add $600 for each additional member in a non-farm family and $500 for each additional member in a farm family.

APPENDIX F

SUMMARY TABLE OF MATERNAL INVOLVEMENT AND VANE KINDERGARTEN TEST SCORES

SUMMARY OF RAW DATA

Subject No.	Vane Kindergarten Test Scores				
		Test 1			
	Maternal Involvement Score	$\bar{x}$ I.Q.	Perceptual-Motor	Vocabulary	Draw-A-Man
1	302	100.3	117	84	100
2	298	92.3	93	79	105
3	288	105.0	98	108	109
4	294	104.0	100	88	124
5	307	103.7	125	97	89
6	285	84.7	93	71	90
7	308	106.7	106	101	113
8	285	101.7	113	108	84
9	300	83.7	76	89	86
10	305	86.7	100	67	93
11	288	105.7	107	103	107
12	309	97.3	97	97	98
13	325	88.0	100	75	89
14	307	97.3	105	90	97
15	293	90.0	77	120	73
16	295	93.7	96	88	97
17	311	89.7	99	86	84
18	301	98.3	100	119	76
19	294	79.0	83	70	84
20	293	89.0	89	89	89
21	286	106.7	107	94	119
22	291	90.3	106	71	94
23	292	83.7	86	86	79
24	305	103.7	111	95	105
25	303	118.7	119	123	114
26	274	110.3	85	134	112
27	297	96.0	110	93	85
28	281	84.3	107	69	77
29	306	91.7	101	68	106
30	271	83.7	86	66	99
31	225	79.0	77	65	95
32	300	96.7	119	66	105
33	276	105.3	105	105	106
34	274	91.0	119	66	88
35	281	116.0	103	112	133
36	306	108.3	109	95	121
37	310	100.0	109	82	109
38	289	94.3	97	83	103
39	314	100.3	107	94	100
40	284	108.0	136	75	113

SUMMARY OF RAW DATA--Continued

Vane Kindergarten Test Scores							
Test 2				Test 2 Minus Test 1			
$\bar{x}$ I.Q.	Perceptual-Motor	Vocabulary	Draw-A-Man	$\bar{x}$ I.Q.	Perceptual-Motor	Vocabulary	Draw-A-Man
117.3	128	93	131	17.0	11	9	31
85.3	88	74	94	- 7.0	- 5	- 5	-11
100.0	101	93	106	- 5.0	3	-15	- 3
98.3	99	83	113	- 5.7	- 1	- 5	-11
119.7	143	104	112	16.0	18	7	23
94.0	100	75	107	9.3	7	4	17
109.3	100	104	124	2.6	- 6	3	11
91.7	106	79	90	-10.0	- 7	-29	6
98.3	96	92	107	14.6	20	3	21
80.7	75	71	96	- 6.0	-25	4	3
112.0	111	103	122	6.3	4	0	15
99.7	109	78	112	2.4	12	-19	14
78.3	75	72	88	- 9.7	-25	- 3	- 1
95.7	98	98	91	- 1.6	- 7	8	- 6
89.7	77	114	78	- 3.0	0	- 6	5
-	-	-	-	-	-	-	-
99.7	113	70	116	10.0	14	-16	32
93.0	85	103	91	- 5.3	-15	-16	15
83.7	86	86	79	4.7	3	16	- 5
92.7	97	83	98	3.7	8	- 6	9
-	-	-	-	-	-	-	-
90.3	104	67	100	0.0	- 2	- 4	6
85.0	94	82	79	1.3	8	- 4	0
79.7	94	70	75	-24.0	-17	-25	-30
121.3	113	132	119	2.6	- 6	9	5
91.0	78	103	92	-19.3	- 7	-31	-20
96.3	133	75	81	0.3	23	-18	- 4
88.0	93	85	86	3.7	-14	16	9
85.3	84	72	100	- 6.4	-17	4	- 6
80.7	94	82	66	- 3.0	8	16	-33
82.0	88	62	96	3.0	11	- 3	1
102.0	125	90	91	5.3	6	24	-14
93.0	99	77	103	-12.3	- 6	-28	- 3
88.0	97	70	97	- 3.0	-22	4	9
101.7	132	74	99	-14.3	29	-38	-34
96.0	115	77	96	-12.3	6	-18	-25
101.0	99	90	114	1.0	-10	8	5
87.3	91	78	93	- 7.0	- 6	- 5	-10
99.7	99	86	114	- 0.6	- 8	- 8	14
107.3	106	110	106	- 0.7	-30	35	- 7